

## Hingtgen, Robert J

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**From:** Richard James <rickjames@e-coustic.com>  
**Sent:** Monday, March 03, 2014 3:12 PM  
**To:** Hingtgen, Robert J  
**Cc:** 'Donna Tisdale'; 'svolker'  
**Subject:** Comments on Soitec Solar Development Draft Program Environmental Impact Report (DPEIR)  
**Attachments:** 14-03-03 Comments on Soitec Solar Development.pdf

Mr. Hingtgen,

Please accept my comments on the PDEIS for the Soitec Project. They are submitted on behalf of Backcountry Against Dumps, The Protect Our Communities Foundation, and Donna Tisdale. They are a supplement to the comments submitted by Mr. Steve Volker for the same groups.

Rick James, INCE

**"A subset of society should not be forced to bear the cost of a benefit for the larger society."**

From: One Page Takings Summary: U.S Constitution and Local Land Use, by: George S. Hawkins, Esq., Stony Brook-Millstone Watershed Association

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# E-Coustic Solutions

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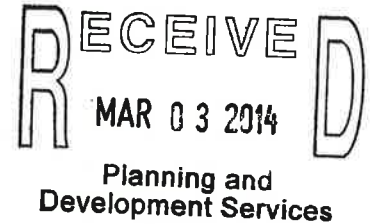
RICHARD R. JAMES  
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March 3, 2014

## ***Via Electronic Mail***

email: Robert.Hingtgen@sdcounty.ca.gov

Robert J. Hingtgen  
San Diego County Planning &  
Development Services Department  
5201 Ruffin Road, Suite B  
San Diego, California 92123-1666



**Re: Comments on Soitec Solar Development Draft Program Environmental Impact Report (DPEIR) : 3800 12-010; Tierra Del Sol, 3300 12-010 (MUP), 3600 12-005 (REZ), 3921 77-046-01 (AP); Rugged Solar, 3300 12-007 (MUP); Environmental LOG NO.: 3910 120005(ER)**

Dear Mr. Hingtgen:

Please accept the following comments and opinions regarding the Draft Programmatic Environmental Impact Report ("DPEIR") issued by the County of San Diego (the "County") for the Soitec Solar Development Project at the Rugged, Tierra del Sol, LanEast, and LanWest locations<sup>1</sup> (the "Project"). They are submitted pursuant to the California Environmental Quality Act ("CEQA"), Public Resources Code ("PRC") section 21000 *et seq.*, on behalf of the Protect Our Communities Foundation, Backcountry Against Dumps and Donna Tisdale (collectively "Conservation Groups"). These comments and opinions should be considered in conjunction with those submitted by Mr. Steven C. Volker on March 1, 2014 also on behalf of the Protect Our Communities Foundation, Backcountry Against Dumps and Donna Tisdale. They include support for Mr. Volker's concerns and also identify issues not addressed in Mr. Volker's submittal.

## **QUALIFICATIONS**

I am the Owner and Principal Consultant for E-Coustic Solutions, of Okemos, Michigan (P.O. Box 1129, Okemos MI 48805). I have been a practicing acoustical engineer for 40 years. I have been actively involved with the Institute of Noise Control Engineers (INCE) since I started my career in the early 1970s and have Full Member status in the Institute. My clients include many large manufacturing firms, such as, General Motors, Ford, Goodyear Tire & Rubber, and others who have operations involving both community noise and worker noise exposure. In addition, I have worked for many small companies and private individuals. My academic credentials include appointments as Adjunct Professor and Instructor to the Speech and Communication Science Departments at Michigan State University and Central Michigan University. I have previously submitted reviews of EIS documents for several renewable energy projects in California including: Ocotillo Wind Energy Facility, Avalon Wind Energy Project, East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects, and the Shu'Luuk Wind Project.

## **DEFICIENCIES IN DOCUMENTS DESCRIBING NOISE IMPACT FROM THE PROJECT**

### **DEFICIENCY 1-INADEQUATE INFORMATION TO PROPERLY CHARACTERIZE NOISE IMPACT ON ADJACENT PROPERTIES**

The documentation for the Project's Noise Impact provided in the Soitec Solar Development Program EIR (Jan. 2014) Section 2.6 and referenced documents:

- Acoustical Assessment Report, Tierra del Sol Solar Farm Project (Appendix 2.6-1), and
- Rugged Solar LLC Project, Noise Impact Analysis Report (Appendix 2.6-2),

describe operational and construction related noise sources that have complex noise emissions. The Soitec EIR and references provide only the most limited information about the sounds that will be produced by this equipment. Only sound levels and sound power levels expressed as dBA values are provided without any scientific consideration of the frequency spectrum, impulsive characteristics, tones, or other characteristics that are not addressed in a dBA metric yet are important to any evaluation of the noise impact of the operation. Yet, many of the noise sources are described in the narrative as being impulsive, tones, and other characteristics that were then ignored by an analysis that only considered long term averages (CNEL) and dBA levels. Without detailed frequency and amplitude data for each noise source it is not possible to determine if the Project, either in operational or construction modes, may produce excessive infra and low frequency sounds that are also associated with annoyance and community complaints.

The result is that the project analysis presented in the Soitec EIR fails to address the most likely causes of future noise complaints. Further, the failure to include this information precludes this more detailed analysis by independent peer reviewers. The result of excluding this essential and necessary additional information both for other reviewers and for the EIR itself is that the conclusion that the project will be compatible with existing land use is based only on a partial, inadequate review and analysis.

For a project with the type of noise sources identified in the EIR the analysis requires octave band or 1/3 octave band details of sound power emissions and sound pressure levels for each of the construction and operational noise sources identified in the EIR. In addition, for any noise source that produces impulsive sound, (pile drivers, jack hammers, etc.) the average sound levels are meaningless since it is the peak sound pressure levels that would relate to annoyance and land use compatibility. For these types of noise sources the number of impulses and the number of emitters that produce them is essential to a full and complete analysis.

Failure to include this information results in an EIR that distorts the analysis and conclusions that may be drawn from the documents. It precludes a full and accurate analysis of the Project's noise impact and identification of alternatives or mitigation measures. It also precludes a full and independent review.

#### DEFICIENCY 2-CNEL ANALYSIS IN EIR DOES NOT ACCOUNT FOR TONES AND IMPULSES

Rugged Solar LLC			CNEL Calculation (Worst Case)	
Leq	Time	Adjustment		
51.1	Midnight	10	61.1	61.1
51.1	1	10	61.1	61.1
51.1	2	10	61.1	61.1
51.1	3	10	61.1	61.1
51.1	4	10	61.1	61.1
51.1	5	10	61.1	61.1
51.1	6	10	61.1	61.1
51.1	7am		51.1	51.1
51.1	8		51.1	51.1
51.1	9		51.1	51.1
51.1	10		51.1	51.1
51.1	11		51.1	51.1
51.1	noon		51.1	51.1
51.1	1		51.1	51.1
51.1	2		51.1	51.1
51.1	3		51.1	51.1
51.1	4		51.1	51.1
51.1	5		51.1	51.1
51.1	6		51.1	51.1
51.1	7	5	56.1	51.1
51.1	8	5	56.1	51.1
51.1	9	5	56.1	51.1
51.1	10	10	61.1	61.1
51.1	11	10	61.1	61.1
			57.8	57.5
			CNEL	LDN

As stated above there is clear information in the EIR that some of the noise sources have tonal and/or impulsive characteristics. Proper application of the CNEL method requires that these characteristics be included in the calculations of the CNEL as a 5 dB penalty. See attachment to this document "CNEL Calculation and Normalization Methods" for these adjustments. The 5 dB adjustment for pure tones and impulses is found at the bottom of the table.

Review of the Dec. 2013 Acoustical Assessment Report by Dudek (Soitec EIR Appendix 2.6-1 and 2.6-2) finds no consideration given to the special characteristics of tones and impulses required by the CNEL method. An excerpt from the table in Appendix B-CNEL Calculation of Operational Noise Levels at NSLUS (Worst Case) found in Appendix 2.6-2 is provided in Figure 1. Under the column labeled "Adjustment" we see only adjustments for the time of day: 10 dB for nighttime operations, and 5 dBA for evening operations. This analysis is deficient because it does not address the noise source's characteristics as required for CNEL analysis.

Figure 1-Excerpt from Appendix 2.6-2 CNEL Table

**DEFICIENCY 3-CNEL ANALYSIS IN EIR DOES NOT ACCOUNT FOR CORRECTIONS FOR OUTDOOR RESIDUAL LEVEL**

The CNEL method also requires an adjustment for the character of the community's soundscape prior to the Project. The Table for CNEL Calculations and Normalization Methods shows that for a community located remote from cities and from industrial activity and trucking an adjustment of +10 dB is required. Although there is some noise associated with Highway 8 traffic, the Project will be introducing more truck traffic from operation of the cement and rock crushing facility located in the Rugged Solar Project that will be on local roads and that may not follow a diurnal pattern. Just as there is no analysis of the impact of this additional traffic in the EIR Noise impact assessment the study also failed to consider these new noise sources that were not part of the pre-Project soundscape.

The CNEL table indicates that an adjustment of 10 dB is appropriate for a new noise source that is located in a community that was previously not subject to its noise. As seen in Figure 1, the EIR did not include this adjustment in the CNEL calculations.

**DEFICIENCY 4-CNEL ANALYSIS IN EIR DOES NOT ACCOUNT FOR PREVIOUS EXPOSURE AND COMMUNITY ATTITUDES**

As in the previous two deficiencies, the Soitec EIR and its noise studies, Appendices 2.6-1 and 2.6-2 also fails to account for another of the CNEL adjustments. The community that will host the Project has no prior experience with noise of the type that will be produced by the solar array equipment, supporting maintenance functions, and associated new industry related to the concrete facility located in the project footprint.

The CNEL adjustment to account for no prior exposure of 5 dB should be included.

**DEFICIENCY 5-THE COMBINED EFFECT OF THE THREE ADJUSTMENTS IDENTIFIED ABOVE RESULT AN ERROR OF UP TO 20 DB IN THE EIR**

The Project as portrayed in the Soitec EIR and Appendices is at most marginally compatible with the host community. As shown above the analysis conducted for Soitec failed to include a number of adjustments for the CNEL and also did not include a full and proper disclosure and analysis of the spectrum shape of the noise source's emissions. Thus, the conclusions that the Project would be compatible with the local host community is not based on a full and complete analysis of the impact of the Project's noise emissions.

**DEFICIENCY 6-THE EIR DOES NOT INCLUDE ANY ANALYSIS OF THE IMPACT OF THE PROJECT ON WILDLIFE IN THE PROJECT FOOTPRINT OR TO RECREATIONAL VISITORS TO AREAS ADJACENT THE PROJECT'S FOOTPRINT**

The EIR and Appendices fail to address the impact of the proposed project's noise emissions on wildlife. The lack of specific information about the operation of the solar array noise sources and the cement and rock crushing facility makes it impossible for an independent reviewer to conduct the analysis.

**DEFICIENCY 7-THE FAILURE TO INCLUDE THE ISSUES PRESENTED IN DEFICIENCIES 1-5 PRESENTS A DISTORTED AND INCOMPLETE ANALYSIS OF THE PROJECT**

The Project developer should be required to submit a full and complete PDEIS that considers all of the aspects of the noises that will be emitted and to include the correct adjustments for the CNEL analysis. This analysis should also be required to include sufficient information describing the frequency and time domain characteristics of each noise source so that a proper independent review may be conducted.

**MITIGATION OPTIONS**

If the Project is constructed the impact on the adjacent community can be mitigated by means of a noise barrier located around the perimeter where it abuts a residential community. The type of barrier that would be appropriate would be one similar to the highway noise barriers constructed of concrete slabs and I-beams for support. This type of barrier should be sufficient to provide

protection for the homes closed to the Project equipment and is relatively easy to construct. If there is a need for openings along the perimeter to allow wildlife access across the project area the noise barriers can be laid out in a manner to have sections that overlap leaving an opening for egress while the overlap blocks the noise from the Project escaping into the adjacent community. Design of this type of barrier to accomplish the necessary attenuation will require the spectral information about the noise sources, but is well understood because of the broad use in highway noise control. There should be no problem in designing a barrier that can attenuate the sounds across the perimeter by 10 to 15 dBA.

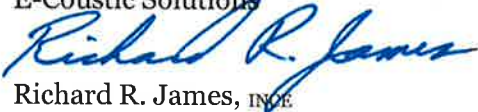
Costs for constructing this type of barrier are lower than those associated with pre-fabricated acoustical walls and the durability is better. If the concrete and rock crushing operation was to be used to form the concrete slabs that form the barrier's walls the total cost will likely be considerably less than if the concrete slabs were purchased from a separate supplier.

### CONCLUSION

The PDEIS should be rejected based on the Deficiencies 1 to 7. Had the proper adjustments been applied to the CNEL analysis the Project would not be acceptable. The Project developer should be required to conduct a full analysis that considers all of the characteristics of the noise sources, properly applies the CNEL adjustments, and includes sufficient data regarding the sound emission spectrum of each noise source, tones, impulses, such that independent reviews may be conducted.

As the PDEIS now stands it is not possible to rule out noise problems related to special frequency characteristics of noise sources, such as infra and low frequency sound, peak levels and the frequency of impulsive sounds from rock crushing, pile driving, etc.. Failure to include this information results in an EIR that distorts the analysis and conclusions that may be drawn from the documents. It precludes a full and accurate analysis of the Project's noise impact and identification of alternatives or mitigation measures. It also precludes a full and independent review.

Sincerely,  
E-Coustic Solutions



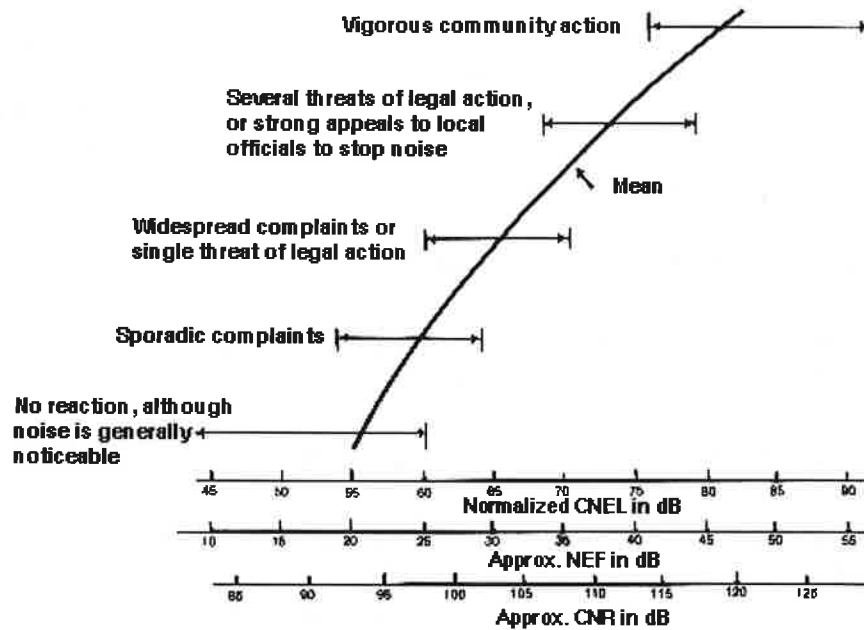
Richard R. James, INCE

Attachment: CNEL Calculation and Normalization Methods

Type of Correction	Description	Amount of Correction to be Added to Measured CNEL in dB
Seasonal Correction	Summer (or year-round operation)	0
	Winter only (or windows always closed)	- 5
Correction for Outdoor Residual Noise Level	Quiet suburban or rural community (remote from large cities and from industrial activity and trucking)	+10
	Normal suburban community (not located near industrial activity)	+5
	Urban residential community (not immediately adjacent to heavily traveled roads and industrial areas)	0
	Noisy urban residential community (near relatively busy roads or industrial areas)	-5
	Very noisy urban residential community	-10
Correction for Previous Exposure & Community Attitudes	No prior experience with the intruding noise	+5
	Community has had some previous exposure to intruding noise but little effort is being made to control the noise. This correction may also be applied in a situation where the community has not been exposed to the noise previously, but the people are aware that bona fide efforts are being made to control the noise.	0
	Community has had considerable previous exposure to the intruding noise and the noisemaker's relations with the community are good.	-5
	Community aware that the operation causing noise is very necessary and it will not continue indefinitely. This correction may be applied for an operation of limited duration and under emergency circumstances.	-10
Pure Tone or Impulse	No pure tone or impulsive character	0
	Pure tone or impulsive character present	+5

Table of correction factors used to normalize CNEL values (after U.S. Environmental Protection Agency document NTID300.3, *Community Noise*, 1971).





Community reaction to noise as a function of normalized CNEL values as calculated from case histories (after U.S. Environmental Protection Agency document NTID 300.3, *Community Noise*, 1971).

[http://www.sfu.ca/sonic-studio/handbook/Community\\_Noise\\_Equivalent.html](http://www.sfu.ca/sonic-studio/handbook/Community_Noise_Equivalent.html)